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**PRELIMINARY ASSESSMENT/  
VISUAL SITE INSPECTION**

**CBI RESEARCH CORPORATION  
PLAINFIELD, ILLINOIS  
ILD 082 939 588**

**FINAL REPORT**

**Prepared for**

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Waste Programs Enforcement  
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## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
EXECUTIVE SUMMARY .....	ES-1
1.0 INTRODUCTION .....	1
2.0 FACILITY DESCRIPTION .....	4
2.1 FACILITY LOCATION .....	4
2.2 FACILITY OPERATIONS .....	4
2.3 WASTE GENERATING PROCESSES .....	7
2.4 HISTORY OF DOCUMENTED RELEASES .....	13
2.5 REGULATORY HISTORY .....	13
2.6 ENVIRONMENTAL SETTING .....	15
2.6.1 Climate .....	15
2.6.2 Flood Plain and Surface Water .....	16
2.6.3 Geology and Soils .....	16
2.6.4 Ground Water .....	17
2.7 RECEPTORS .....	18
3.0 SOLID WASTE MANAGEMENT UNITS .....	20
4.0 AREAS OF CONCERN .....	25
5.0 CONCLUSIONS AND RECOMMENDATIONS .....	26
REFERENCES .....	30

### Attachment

- A VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
- B VISUAL SITE INSPECTION FIELD NOTES
- C FACILITY'S RCRA PART A PERMIT APPLICATION

## LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	SOLID WASTE MANAGEMENT UNITS (SWMU) .....	8
2	SOLID WASTES .....	11
3	SWMU SUMMARY .....	27

## LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	FACILITY LOCATION .....	5
2	FACILITY LAYOUT/SWMU LOCATIONS .....	9

## EXECUTIVE SUMMARY

ENFORCEMENT  
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Resource Applications, Inc. (RAI) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the CBI Research Corporation (CBI Research) facility in Plainfield, Illinois. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs identified.

The CBI Research facility performs research and development (R & D) projects for the parent company, Chicago Bridge & Iron Company (Chicago Bridge & Iron). No manufacturing processes are conducted at the facility. Numerous RCRA-listed wastes were, are, and may be generated during R & D activities. Hazardous wastes, such as waste degreasers (F002), waste paint (F003, F005), waste paint-related materials (F003, F005), and spent solvent (F003); and nonhazardous waste oils and spent coolants are generated in small quantities during R & D activities. These wastes are accumulated in the Hazardous Waste Accumulation Area (SWMU 1) located in the basement near the machining area. Once full, the unit is taken to the Hazardous Waste Storage Pad (SWMU 2) for less than 90-day storage; however, according to the facility representative this unit has not been filled since it began operation in 1986. In the past, hazardous wastes generated during R & D activities were placed in the Hazardous Waste Storage Tank (SWMU 3). When the tank was full, the hazardous waste was pumped into 55-gallon steel drums which were then stored at SWMU 2 in preparation for off-site disposal. The facility also generated a number of characteristic "D" wastes, "P" wastes, and "U" wastes during inventory cleanouts. These wastes are lab-packed and stored at SWMU 2 prior to off-site disposal. In addition to the hazardous wastes, the facility has generated asbestos waste during an inspection of the cooling tower. An asbestos sludge was placed in a 70-gallon steel salvage drum and placed on a wooden pallet in the materials yard. This Asbestos Waste Storage Area (SWMU 4) will be emptied of all asbestos waste upon completion of an asbestos abatement project scheduled to begin in March 1992. This asbestos abatement project and the removal of all asbestos waste will be conducted by Universal Asbestos Removal (UAR) of Bridgeview, Illinois. UAR will dispose of the asbestos waste at ARF Landfill in Grayslake, Illinois.

The facility has operated at its current location since 1967. The facility occupies 130 acres in an industrial and agricultural area and employs about 80 people. The facility's regulatory status is

ES-1

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that of a small-quantity generator. The facility underwent a name change in 1985 from Chicago Bridge & Iron Company to CBI Research Corporation. The name change did not affect ownership or operations. Prior to the current owners, the facility was operated by Continental Can Company, Inc. (CCC). CCC constructed the current laboratory building in 1959 and operated the facility until 1963. The facility was dormant from 1963 to 1967 when Chicago Bridge & Iron Company began operations. Prior to 1959 the site was agricultural land.

The facility is planning to undergo RCRA closure for its Hazardous Waste Storage Pad (SWMU 2) and its Hazardous Waste Storage Tank (SWMU 3), which rests on SWMU 2. According to the facility representative, it is Chicago Bridge & Iron corporate policy to seek formal RCRA closure for all regulated waste management units no longer in use. Closure is being conducted since SWMU 3 has not been utilized since 1986. SWMU 2 is being closed because it contains SWMU 3. Soil sampling will be performed around the perimeter of SWMU 2. If contamination is detected above IEPA cleanup objectives and it becomes necessary to remove SWMU 2, a temporary hazardous waste storage area will be designated in an inactive paint spray booth in the basement of the laboratory building. SWMU 3 will be removed during closure.

The PA/VSU identified the following 4 SWMUs and one AOC at the facility:

#### Solid Waste Management Units

1. Hazardous Waste Satellite Accumulation Area
2. Hazardous Waste Storage Pad
3. Hazardous Waste Storage Tank
4. Asbestos Waste Storage Area

#### Area of Concern

1. Tank Farm

CBI Research is bordered on the north by agricultural land, on the west by Kerr Glass Company, on the south by agricultural land, and on the east by the DuPage River. Private residences are located on the east side of the DuPage River. Access to the facility is controlled by an 8-foot-high chain-link fence surrounding the facility.

The closest surface water body is the DuPage River, which is the eastern border of the facility. The DuPage River is used for recreational and commercial purposes. The closest wetlands area is approximately 0.5 mile east of the facility, at an abandoned strip mine area.

There is a low potential for release to ground water, surface water, and on-site soils from all SWMUs. There is a moderate potential for release to air from the Asbestos Waste Storage Area (SWMU 4). This is due to the fact that the drum containing the asbestos waste is stored uncovered, outdoors; therefore the asbestos waste may become airborne. All other SWMUs have a low potential for release to air.

There is a low potential for release to ground water, surface water, and air from the Tank Farm (AOC 1). AOC 1 has a moderate potential for release to on-site soils due to the age of the tanks and since the integrity of the tanks has not been evaluated.

RAI recommends that the facility manage its asbestos waste stored at SWMU 4, so as to minimize the potential for release to environmental media. RAI also recommends integrity testing of the Tank Farm (AOC 1) tanks and/or soil sampling of AOC 1 for evidence of release. RAI recommends no further action for all other SWMUs.

## 1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC) received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5. Resource Applications, Inc. (RAI), TES 9 team member, provided the necessary assistance to complete the PA/VSI activities for the CBI Research Corporation (CBI Research) facility.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all visible SWMUs, identifying evidence of releases, initially identifying potential sampling parameters and locations, if needed, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the CBI Research facility in Plainfield, Illinois. The PA was completed on March 2, 1992. RAI gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA) and from EPA Region 5 RCRA files. RAI also reviewed documents from the U.S. Department of Agriculture (USDA), U.S. Geological Survey (USGS), and the Federal Emergency Management Agency (FEMA). The VSI was conducted on March 3, 1992. It included interviews with a facility representative and a walk-through inspection of the facility. Four SWMUs and one AOC were identified at the facility.

The VSI is summarized and six inspection photographs are included in Attachment A. Field notes from the VSI are included in Attachment B.

## **2.0 FACILITY DESCRIPTION**

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

### **2.1 FACILITY LOCATION**

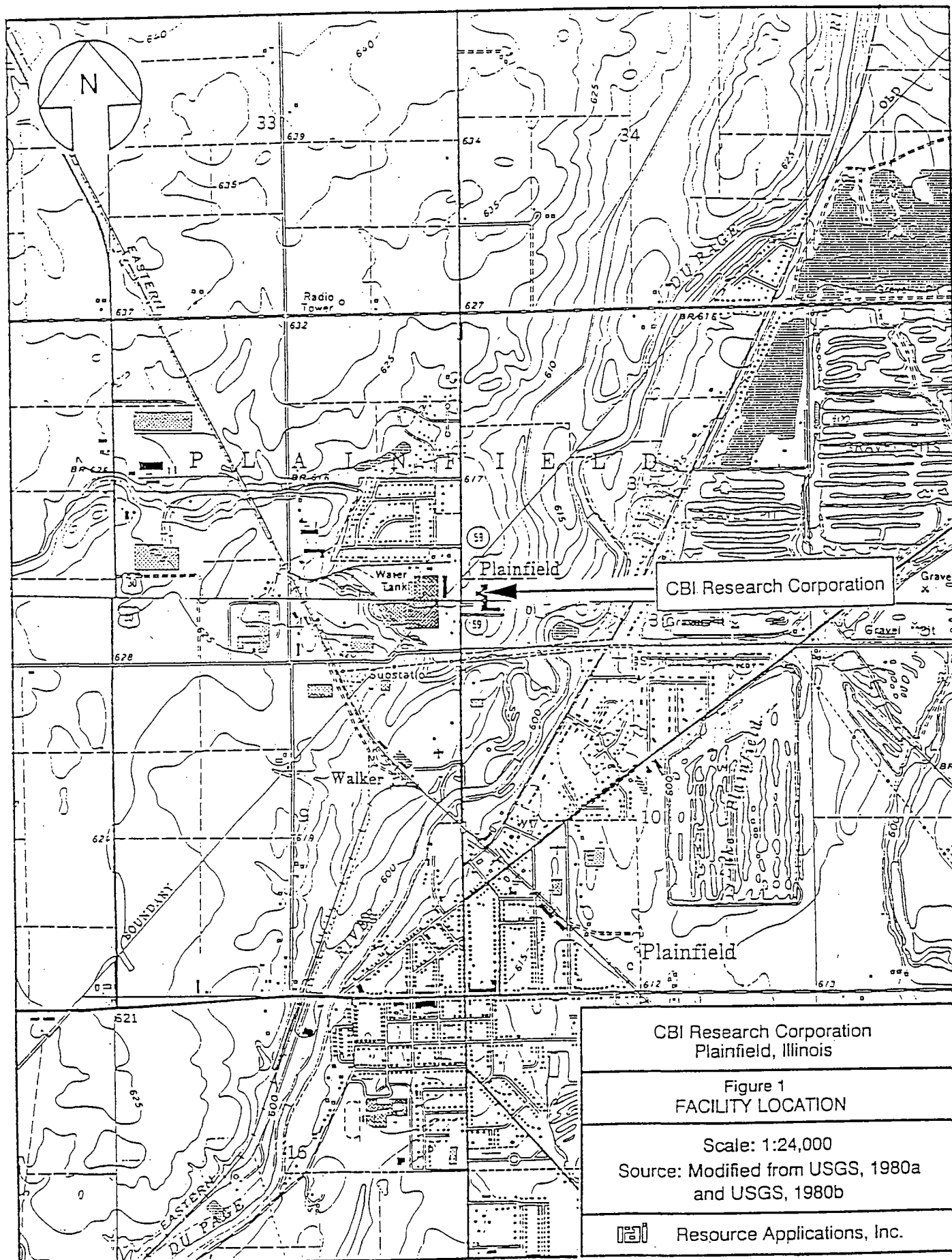
The CBI Research facility is located at 1501 N. Division Street in Plainfield, Will County, Illinois (latitude 41°37'25" N and longitude 88°12'07" W), as shown in Figure 1. The facility occupies 130 acres with the plant grounds occupying 10 acres. The facility is located in an agricultural and industrial area.

The CBI Research facility is bordered on the north by agricultural land, on the west by Kerr Glass Company, on the south by agricultural land, and on the east by the DuPage River. There are private residences on the east side of the DuPage River.

### **2.2 FACILITY OPERATIONS**

The CBI Research facility performs research and development (R & D) projects for their parent company, Chicago Bridge & Iron Company (Chicago Bridge & Iron), which is a subsidiary of CBI Industries, Inc. The projects being conducted at the facility include: marine research, utilizing a large wave tank for testing scaled, off-shore structures; integrity tests on structural steel tanks and vessels; and systems testing. CBI Research also performs feasibility tests on independent projects. There is no manufacturing or production occurring at the facility.

Most chemical raw materials are stored in the inactive wet laboratory. These are in small amounts and stored in glass jugs and jars, and metal containers. Raw material solvents, oils, and coolants are stored in the basement machine shop and the maintenance department. Oils and coolants are stored in 55-gallon steel drums. Solvents, stored in 16-ounce spray cans, are used for cleaning tools and other equipment associated with the construction of test models. Large metal structures,



such as tanks and vessels, are stored outdoor in the materials yard. The facility also stores old raw materials in three staging areas.

The first staging area is the inactive spray paint booth (not in use since approximately 1981) located in the plant basement (see Photograph No. 1). Old raw material is kept in this area until it can be properly identified and its usefulness determined. If the material is found to be unusable it is managed as waste. This staging area is storing an assortment of materials including glues, paints, petroleum products, and cement mix.

The second staging area is located outdoors in the materials yard. This area has 14 55-gallon steel drums (some in over-packs), two 35-gallon steel drums, and four 70-gallon steel drums (see Photograph No. 2). All the drums are on wooden pallets above gravel covering. The material in this staging area was to be used for a discontinued research project for developing an orange juice concentrate system. According to the facility representative, this material may be ethylene glycol, liquid smoke, and/or orange juice. This material will be identified, and if found to be unusable, will be managed as waste.

The third staging area is a 20-foot long metal transport container located north of the second staging area (see Photograph No. 3). This staging area contains materials used in the construction of a structure erected by Chicago Bridge & Iron in the Persian Gulf during the early 1980s. According to the facility representative, the material is currently considered raw material and will be subject to the same usefulness determination as the materials in the other two staging areas. If found to be unusable, the materials will be managed as waste.

The facility has an aboveground Tank Farm (AOC 1) consisting of three tanks: one 18,500-gallon steel floating-roof tank, which stored petroleum products; one 11,500-gallon steel tank which stored ethylene glycol; and one 11,000-gallon concrete tank, which stored liquified natural gas (LNG). The petroleum product and LNG tanks have not been used since 1981. The ethylene glycol tank was emptied in 1990 and is no longer in use. The tank farm was used to perform emissions testing on floating-roof tanks. No releases from these tanks have been documented; however, neither integrity tests nor soil sampling have been performed for these tanks.

The facility has operated at its current location since 1967 and employs about 80 people. The facility underwent a name change in 1988 from Chicago Bridge & Iron to CBI Research Corporation (CBI Research, 1985). Facility activities were not affected. The facility consists of the 78,000-square-foot (sq.-ft.) laboratory building, the 1.25-million-gallon wave tank, the 37,000-sq.-ft. insulation research building, and the 2-acre materials storage yard. Currently the facility is constructing a new 75,000-sq.-ft. engineering building adjacent to the north side of the laboratory building. The facility has also constructed a retention pond west of the new engineering building to collect storm water runoff.

The facility building was constructed by Continental Can Company, Inc. (CCC) in 1959. CCC operated the facility as a glass research center from 1959 to 1963. The facility was dormant from 1963 to 1967 when Chicago Bridge & Iron began operations. Prior to 1959 the area was used as agricultural land.

Hazardous wastes, and nonhazardous waste oils and spent coolants generated during R & D activities are accumulated in a 55-gallon steel drum Hazardous Waste Satellite Accumulation Area (SWMU 1) in the basement near the machining area. When the drum is full, it is taken outdoors to the Hazardous Waste Storage Pad (SWMU 2). Formerly, the facility would store hazardous wastes in the Hazardous Waste Storage Tank (SWMU 3); however this tank has not been used since 1986. The facility also generates hazardous waste during inventory cleanouts. These wastes are lab-packed and stored at SWMU 2 prior to off-site disposal. Facility SWMUs are identified in Table 1. The facility layout, including SWMUs and AOC, is shown in Figure 2.

### **2.3 WASTE GENERATING PROCESSES**

Hazardous wastes are generated at the CBI Research facility during R & D activities, and inventory cleanouts. However, types of hazardous wastes generated and rates of generation are not typical. In general terms, the primary waste streams generated at the facility in recent years are waste degreasers (F002), waste paint (F003, F005), waste paint-related material (F003, F005), spent solvent (F003), waste corrosives (D002, D003, D005), waste oxidizers (D001, D003, D007, D009), waste flammable liquids (D001, F003), waste poisons (D003, D005, D006, D009), and waste compressed gas (D001), as well as characteristic "P" wastes, and characteristic "U" wastes. The

**TABLE 1**  
**SOLID WASTE MANAGEMENT UNITS (SWMU)**

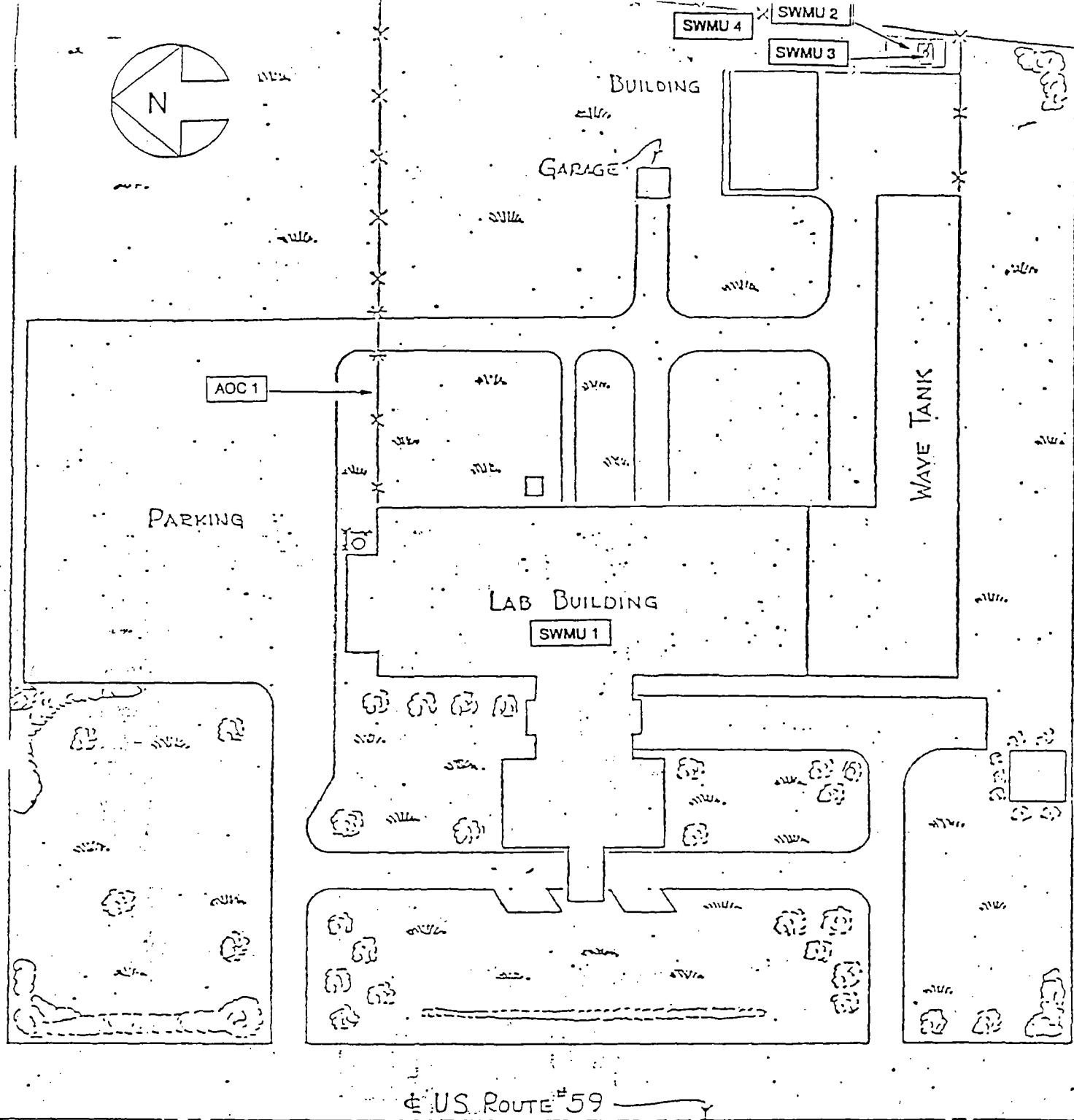
<b>SWMU Number</b>	<b>SWMU Name</b>	<b>RCRA Hazardous Waste Management Unit*</b>	<b>Status</b>
1	Hazardous Waste Accumulation Area	No	Active; accumulating hazardous wastes.
2	Hazardous Waste Storage Pad	Yes	Active; storing hazardous wastes for less than 90 days; will undergo RCRA closure.
3	Hazardous Waste Storage Tank	Yes	Inactive; will undergo RCRA closure.
4	Asbestos Waste Storage Area	No	Active; storing asbestos waste.

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Note:

\* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

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**Solid Waste Management Units (SWMU)**

1. Hazardous Waste Satellite Accumulation Area
2. Hazardous Waste Storage Pad
3. Hazardous Waste Storage Tank
4. Asbestos Waste Storage Area

**Area of Concern (AOC)**

1. Tank Farm

CBI Research Corporation  
Plainfield, Illinois

Figure 2  
FACILITY LAYOUT/SWMU LOCATIONS

Scale: 1" = 100'  
Source: Modified from CBI Research, 1988



Resource Applications, Inc.

facility also generates nonhazardous waste oils and spent coolants. Wastes generated at the facility, as well as the waste source and primary management unit are listed in Table 2.

During R & D activities various wastes are generated. Machine and tool cleaning generates waste degreasers (F002). Painting models and other equipment generate waste paints (F003, F005) and waste paint-related material (F003, F005), as well as spent solvent (F003). Nonhazardous waste oils and spent coolants from the machining area are also generated. As these wastes are generated, they are placed in a 55-gallon steel drum at the Hazardous Waste Satellite Accumulation Area (SWMU 1) located in the basement near the machining area. Most of the recent R & D work performed at CBI Research has not required much waste generation activity. SWMU 1 was installed in 1986 and has never been filled. Once full, this unit will be moved to the Hazardous Waste Storage Area (SWMU 2). Prior to the installation of SWMU 1, these R & D generated wastes were taken to the Hazardous Waste Storage Tank (SWMU 3). When necessary, the waste was pumped from SWMU 3 into 55-gallon steel drums and stored in SWMU 2. The waste was removed for incineration by SCA Chemical Services of Chicago, Illinois. The last time SWMU 3 was emptied was 1986, when seven 55-gallon steel drums were removed from the facility.

In recent years, most of the facility's waste generation has been from inventory cleanouts. Out-dated, off-specification, or obsolete material is identified and lab-packed for removal. In 1991, Safety-Kleen Corporation (Safety-Kleen) of Dolton, Illinois removed 275 gallons of waste paint-related material (F003, F005) from the facility. Safety-Kleen incinerated this waste. Also in 1991, the following wastes were lab-packed and removed by FIW, Inc. (FIW) of Pecatonica, Illinois: 190 gallons of waste corrosives (D002, D003, D005), 45 gallons of waste oxidizers (D001, D003, D007, D009), 390 gallons of waste flammable liquids (D001, F003), 25 gallons of waste poisons (D003, D005, D006, D009), and 5 gallons of waste compressed gas (D001). All of these hazardous wastes were incinerated at FIW.

The facility may also generate a number of characteristic "P" waste, and characteristic "U" wastes during inventory cleanouts or R & D activities. Typically, these waste are lab-packed or placed in 55-gallon steel drums and stored at SWMU 2 prior to off-site disposal. Hazardous wastes possibly generated at the facility are listed on the facility's revised RCRA Part A permit application which is included as Attachment C. In 1990, the facility emptied the ethylene glycol

**TABLE 2**  
**SOLID WASTES**

<u>Waste/EPA Waste Code</u>	<u>Source</u>	<u>Primary Management Unit*</u>
Waste Degreasers/F002	Research and Development	1, 2, and 3
Waste Paints/F003, F005	Research and Development	1, 2, and 3
Waste Paint-Related Material/ F003, F005	Research and Development, and Inventory Cleanouts	1, 2, and 3
Spent Solvent/F003	Research and Development	1, 2, and 3
Waste Corrosives/D002, D003, D005	Inventory Cleanouts	2
Waste Oxidizers/D001, D003, D007, D009	Inventory Cleanouts	2
Waste Flammable Liquids/D001, F003	Inventory Cleanouts	2
Waste Poisons/D003, D005, D006, D009	Inventory Cleanouts	2
Waste Compressed Gas/D001	Inventory Cleanouts	2
Characteristic "P" Wastes	Research and Development, and/or Inventory Cleanouts	2
Characteristic "U" Wastes	Research and Development, and/or Inventory Cleanouts	2
Waste Oil/NA**	Research and Development, and/or Inventory Cleanouts	1, 2, and 3

TABLE 2 (continued)

## SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit*
Spent Coolant/NA**	Research and Development, and/or Inventory Cleanouts	1, 2, and 3
Asbestos/NA**	Cooling Tower Inspection	4
Ethylene Glycol/NA**	Research and Development, and Inventory Cleanouts	2

## Notes:

\* Primary management unit refers to a SWMU that currently manages or formerly managed the waste.

\*\* Nonapplicable (NA) designates nonhazardous waste.

product tank located in the Tank Farm (AOC 1). Ethylene glycol had been used for emissions testing of floating-roof tanks. The ethylene glycol was deemed unusable and 385 gallons were removed by and taken to Effluent Technology, Inc. of McCook, Illinois. Effluent Technology, Inc. recycled the ethylene glycol.

Prior to 1990, while inspecting the cooling tower located on the roof of the laboratory building, facility maintenance personnel shovelled out a sludge-like substance suspected to contain asbestos and placed it in a 70-gallon steel salvage drum. This substance was analyzed by Universal Asbestos Removal (UAR) of Bridgeview, Illinois in 1992, and found to contain asbestos (CBI Research, 1992). This drum was placed on a wooden pallet at the Asbestos Waste Storage Area (SWMU 4) in the materials yard. According to the facility representative, UAR is to begin an asbestos abatement program in March 1992. UAR will remove asbestos from the laboratory building which will undergo remodeling. UAR will also remove any remaining asbestos from the cooling tower. When UAR removes all the asbestos waste from the facility, it will also remove the asbestos waste located at SWMU 4. All asbestos waste is scheduled to go to ARF Landfill in Grayslake, Illinois.

## **2.4 HISTORY OF DOCUMENTED RELEASES**

No releases of hazardous wastes or hazardous constituents to ground water, surface water, air, or on-site soil have been documented at the facility.

## **2.5 REGULATORY HISTORY**

Chicago Bridge & Iron submitted a notification of hazardous waste activity to EPA on August 11, 1980 (Chicago Bridge & Iron, 1980a). The facility submitted a RCRA Part A permit application on November 12, 1980 (Chicago Bridge & Iron, 1980b). This application listed the following process codes and capacities: S01 (drum storage) at 1,100 gallons, and S02 (tank storage) at 1,000 gallons. Due to the nature of the facility's activities, Chicago Bridge & Iron listed on the application all wastes that it did or may generate, as follows:

F001	U044	U165
F005	U112	U169
P018	U123	U188
P105	U134	U190
P106	U135	U196
U001	U140	U213
U002	U147	U219
U013	U151	U220
U019	U154	U223
U021	U159	U226
U029	U161	U239

CBI Research submitted a revised RCRA Part A permit application to EPA on February 17, 1988 (CBI Research, 1988). The revised Part A reflected the following changes:

- Facility name change from Chicago Bridge & Iron to CBI Research
- Facility address change from Route 59 to 1501 N. Division St. (physical location did not change)
- Description of activities to reflect name change
- EPA hazardous waste codes F002 and D001 were added
- Process code S02 was changed to S01.

The facility is currently preparing a closure plan for its Hazardous Waste Storage Pad (SWMU 2) and Hazardous Waste Storage Tank (SWMU 3). AWARE Environmental of Charlotte, North Carolina is assisting CBI Research in the closure activities. Closure is being conducted due to the reduced hazardous waste generating activities and the subsequent lack of need for SWMU 3. The closure plan will address the removal of SWMU 3, and if warranted, the removal of SWMU 2. Although neither unit stored hazardous wastes for greater than 90 days, a Chicago Bridge & Iron corporate policy requires formal RCRA closure of any waste management unit no longer in use. SWMU 2 is being closed because it contains SWMU 3. Soil sampling will be performed around the perimeter of SWMU 2. If contamination is detected above IEPA cleanup objectives, SWMU 2 will be removed. If SWMU 2 is to be removed, the facility will utilize the spray paint booth (see Photograph No. 1) as a temporary hazardous waste storage area. At the time of the VSI, no further progress had been made regarding the closure of these units. The facility currently operates as a small-quantity generator storing wastes for less than 90 days.

In the past, CBI Research has had some RCRA compliance problems. During an inspection on February 14, 1986, IEPA noted that the facility did not have records describing the type, quantity, and final disposition of the hazardous wastes generated on site (IEPA, 1986). These violations were resolved on February 19, 1986 (IEPA, 1986). During an inspection on December 8, 1987, IEPA noted numerous paperwork violations including missing or incorrect information on the facility's Part A permit application (IEPA, 1988a). The facility submitted several responses to these violations and was found to be in compliance on April 27, 1988 (IEPA, 1988b). The facility also received a notice of violation (NOV) as a result of the December 8, 1987 inspection from the EPA regarding violations of the land disposal requirements of F-solvent wastes (EPA, 1988a). The facility submitted a response to the NOV on April 6, 1988, and was subsequently found to be in compliance (EPA, 1988b). During an inspection on December 19, 1989, the facility was found to be violating the land disposal restrictions for failure to provide written notice attached to each waste manifest leaving the facility (EPA, 1990a). The facility responded to the NOV on January 31, 1990, and was subsequently found to be in compliance (EPA, 1990b).

The facility is not required to have operating air permits. The facility does not have a history of odor complaints from area residents. The facility is not required to have a National Pollutant Discharge Elimination System (NPDES) permit.

## **2.6 ENVIRONMENTAL SETTING**

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the CBI Research facility.

### **2.6.1 Climate**

The site is situated in northern Will County, Illinois, about 6 miles north-northwest of Joliet. With no significant topographical barriers to air mass flow, the climate in the area is typically continental with cold winters; warm summers; and frequent short periodic fluctuations in the temperature, humidity, cloudiness and wind direction (Ruffner, 1985). The average daily temperature is 48.7°F. The lowest average daily minimum temperature of 11.3°F occurs in January. The highest average daily maximum temperature of 84.2°F occurs in July. The prevailing wind direction is west

and the average wind speed is 10.4 miles per hour. Average annual precipitation as water equivalent is 35.62 inches. Annual net precipitation is 5.6 inches (USDC, 1968). In winter about one half of the precipitation, or 10 percent of the annual total, falls as snow. During the fall, winter, and spring, the pattern of precipitation tends to be uniform over both time and distance, whereas in summer rainfall is often locally heavy and variable. The one-year, 24-hour maximum rainfall recorded in the area over the last 25 years is 10.48 inches (Ruffner and Bair, 1985).

#### 2.6.2 Flood Plain and Surface Water

The general direction of surface water flow is to the east into the southwardly flowing DuPage River, which is the eastern border of the facility. The facility has constructed a retention pond east of the new engineering building. The retention pond gathers the surface runoff, which is then directed eastward, toward the DuPage River. The facility is on a 100-year floodplain (FEMA, 1982). The Lily Cache Creek is approximately 0.75 mile to the east. The Des Plaines River is approximately 6 miles to the east. The DuPage and Des Plaines Rivers are used for recreational and commercial purposes, as is the Chicago Sanitary and Ship Canal, which is adjacent to the Des Plaines River.

#### 2.6.3 Geology and Soils

No site-specific information was available for the CBI Research facility, so the following discussion, based on regional geologic information, is presented. The main features of the northeastern Illinois landscape are the result of glaciation (Bergstrom, et al., 1955). Soils are formed in glacial till with a relatively high clay content (USDA, 1980). The soil structure is fairly graded and well drained to sewers and low-lying areas. The water carrying capacity and permeability of the soil are considered moderate.

The varied glacial and bedrock materials deposited are the result of streams and rivers that flowed from the glaciers. The area is on a broad, gently sloping arch of Paleozoic bedrock formation overlain by glacial deposits, called drift. These deposits mantle most of the area and consist of unconsolidated till, silt, clay, sand, gravel, and peat (Willman, 1971). The glacial deposits form an irregular surface that covers the solid layered bedrock at the site. The drift is underlain by Silurian dolomite bedrock which lies unconformable on rocks of the Maquoketa Group.

The Cambrian system rock is marine in origin. Its lower half is largely sandstone and the upper half consists of dolomites, sandy dolomites, sandstones, and siltstones. Sandstones of the Eau Claire Formation, which dominate in the vicinity of the site, are 370 to 470 feet thick (Willman, 1971). The Eau Claire Formation is composed of a variety of rock types including sandstones, siltstones, dolomite, and shale in the upper and middle part. The lower part is composed of rock similar to Mt. Simon Sandstone, which is present throughout the area (Hughes, et al., 1966). The base is the top of Precambrian crystalline rock (Hughes, et al., 1966). The depth of crystalline rock ranges from 3,750 feet to 4,250 feet around the facility.

The thickness of the unconsolidated till ranges from 50 feet to 250 feet in the area (USDA, 1980). Shallow sand deposits are mainly fine-grained and silty; for ground water supplies, drilled wells usually penetrate solid bedrock (Bergstrom, et al., 1955).

#### 2.6.4 Ground Water

In the vicinity of the site ground water is obtained from four major aquifers: (1) sand and gravel beds in the glacial drift; (2) shallow dolomite aquifers, mainly the Silurian Dolomite; (3) the Cambrian-Ordovician aquifer, in which the Iron-ton-Galesville and Glenwood-St. Peter Sandstones are the most productive units; and (4) the Mt. Simon aquifer, which consists of the Mt. Simon Sandstone and the basal sandstone of the Eau Claire Formation (Willman, 1971). Ground water flows north, northwest in the area (Village of Plainfield, 1992).

In Will County, ground water supplies are obtainable from 50 feet to 150 feet deep in sand and gravel within the glacial drift. The best possibilities for high capacity wells in sand and gravel are where the drift is generally over 100 feet thick (Bergstrom, et al., 1955). Some wells penetrate through the drift and obtain water from open cracks and crevices in the dolomite.

The shallow bedrock aquifer system yields water through fractures and solution openings and is recharged from precipitation. Shallow wells have the advantage of rapid recharge but their limitations include erratic yield because of irregular permeability and susceptibility to contamination (Hughes, et al., 1966).

The deep bedrock aquifer systems include the Cambrian-Ordovician system and the Mt. Simon system. The major aquifers are the Glenwood-St. Peter, Ironton-Galesville, and Mt. Simon Sandstones. The top of the Cambrian-Ordovician aquifer system is at the top of or within the Galena-Platteville dolomites. the Cambrian-Ordovician and the Mt. Simon aquifers are separated by relatively impermeable shales and dolomites of the upper and middle part of the Eau Claire formation and are included with the Mt. Simon sandstone as the Mt. Simon aquifer system.

The wells in the deep bedrock aquifer system yield in excess of 700 gallons per minute (gpm) and are dependable for large supplies of water. The Galena-Platteville Dolomite contributes little water because of slow permeability. The Glenwood-St. Peter Sandstone, beneath the Galena-Platteville dolomite, is widely utilized where water requirements are less than 200 gpm. It has a permeability of approximately 9 to 15 gallons per day/square-foot (gpd/sq. ft.) while the underlying Ironton-Galesville Sandstone has a permeability of about 35 gpd/sq. ft. The Mt. Simon aquifer system lies at approximately 1,650 feet below the surface and about 270 feet of fresh water-bearing sandstone can be expected. The Mt. Simon system has an average permeability of approximately 16 gpd/sq. ft. Water wells rarely penetrate more than a few hundred feet into this system because the water is too highly mineralized for most uses (Hughes, et al., 1966).

## **2.7 RECEPTORS**

The CBI Research facility occupies 130 acres in an industrial and agricultural area in Plainfield, Illinois. Plainfield has a population of about 3,500.

The CBI Research is bordered on the north by agricultural land, on the west by Kerr Glass Company, on the south by agricultural land, and on the east by the DuPage River. Private residences are on the east side of the DuPage River. The nearest school, St. Mary's School, is located about 2 miles south of the facility. Facility access is controlled by an 8-foot high chain-link fence.

The nearest surface water body, the DuPage River, is the eastern border of the facility, and is used for recreational and commercial purposes. Other water bodies in the area include the Lily Cache Creek, located about 0.75 mile east of the facility; Lake Renwick, located about 1.5 miles south of the facility; and the Des Plaines River, located about 6 miles east of the facility.

The Village of Plainfield provides drinking water and sanitary services for the facility and the surrounding area through the use of two on-line deep wells. These two wells are located 0.5 mile west and 0.75 mile south of the facility (Village of Plainfield, 1992). Kerr Glass Company, located on the west border of the facility, maintains an industrial well.

Sensitive environments are not located on site. The nearest wetland area is located about 0.5 mile east of the facility, at an abandoned strip mine area (USDI, 1983).

### 3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the four SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and RAI observations. Figure 2 shows the SWMU locations.

#### SWMU 1

#### Hazardous Waste Satellite Accumulation Area

##### Unit Description:

The Hazardous Waste Satellite Accumulation Area is located indoors, in the basement of the laboratory building, near the machining area. The unit is a 55-gallon steel drum with a metal funnel at the top (see Photograph No. 4). The unit accumulates small quantities of wastes generated during R & D activities. Once full, the drum is taken to the Hazardous Waste Storage Pad (SWMU 2). The drum is on a concrete floor. There are no floor drains near this unit.

##### Date of Startup:

This unit began operation in 1986.

##### Date of Closure:

This unit is active.

##### Wastes Managed:

This unit is currently managing waste degreasers (F002), waste paints (F003, F005), waste paint-related materials (F003, F005), spent solvent (F003), waste oil, and spent coolant.

##### Release Controls:

This unit is located indoors, on a concrete floor. There are no floor drains near this unit.

##### History of Documented Releases:

No releases from this unit have been documented.

Observations:	This unit has not been filled since it began operation in 1986. The concrete floor appeared sound and there were no visual signs of cracking. No evidence of release was noted.
<div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"><b>SWMU 2</b></div> <div><b>Hazardous Waste Storage Pad</b></div> </div>	
Unit Description:	The Hazardous Waste Storage Pad is located outdoors, in the materials yard, about 100 feet east of the wave tank building. This unit stores hazardous wastes (and occasionally nonhazardous wastes) for less than 90 days. The unit is a concrete pad measuring 20 feet by 15 feet with a 6-inch berm around the perimeter of the pad (see Photographs No. 5 and 6). A convexed ramp provides easy loading/unloading of drums without disrupting the secondary containment. There is an 8-foot high chain-link fence with a locked gate surrounding the unit. The Hazardous Waste Storage Tank (SWMU 3) rests on the concrete pad within the fenced unit. There are no storm drains inside the unit.
Date of Startup:	The unit began operation in 1982.
Date of Closure:	The unit is currently active; however, the facility is preparing a closure plan. According to the facility representative, closure should be completed 165 days after the start of closure activities.
Wastes Managed:	The unit manages all hazardous wastes generated at the facility. Hazardous wastes are stored in 55-gallon steel drums or in lab-packs. This unit has also stored nonhazardous ethylene glycol during a one-time tank pump-out generation. For a complete list of all wastes managed at this unit, see Attachment C.
Release Controls:	This unit has a 6-inch berm around the perimeter of the pad.

History of Documented  
Releases:

No releases from this unit have been documented.

Observations:

There was no waste being stored at this unit at the time of the VSI. There is a slight crack running from east to west across the center of the pad and berm. There are two 200-gallon empty fuel oil tanks that were inadvertently brought into the unit by a former employee. No evidence of release was noted at this unit.

### **SWMU 3**

#### **Hazardous Waste Storage Tank**

Unit Description:

The Hazardous Waste Storage Tank is located inside the Hazardous Waste Storage Pad (SWMU 2). The unit was used to store hazardous waste which was allowed to blend in order to improve fuel blending potential. Once the unit was full, the hazardous waste was pumped out and placed into 55-gallon steel drums, which were stored at SWMU 2. The unit is a 1,000-gallon aboveground steel tank with metal supports which keep the tank elevated about 3 inches above the concrete pad (see Photograph No. 6).

Date of Startup:

This unit began operations in 1982.

Date of Closure:

The unit has been inactive since 1986 and will be closed along with SWMU 2. A closure plan is being prepared and will be submitted to IEPA. The facility representative estimates that closure will be completed 165 days after the start of closure activities.

Wastes Managed:

This unit managed waste degreasers (F002), waste paints (F003, F005), waste paint-related material (F003, F005), spent solvent (F003), and nonhazardous waste oils and spent coolant.

Release Controls:	This unit rests on SWMU 2 which has a 6-inch high berm around the perimeter of the pad.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	According to the facility representative, the only waste that may still be inside the unit is sludge. The sludge will be removed and properly disposed of during closure activities. No evidence of release was noted at this unit.
<b>SWMU 4</b>	<b>Asbestos Waste Storage Area</b>
Unit Description:	The Asbestos Storage Area is located outdoors, in the materials yard, about 100 feet north of the Hazardous Waste Storage Pad (SWMU 2). The unit is located in one of the staging areas for undetermined product. The unit stores asbestos waste generated during a cooling tower inspection. The unit consists of 70-gallon steel salvage drums resting on wooden pallets above a gravel ground cover (see Photograph No. 2).
Date of Startup:	This unit began operation in approximately 1989.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages asbestos waste.
Release Controls:	The drums used in this area are normally sealed; however, during the VSI, one drum of asbestos waste was open.
History of Documented Releases:	No releases from this unit have been documented.

**ATTACHMENT A**

**VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS**

## VISUAL SITE INSPECTION SUMMARY

CBI Research Corporation  
Plainfield, Illinois 60544  
ILD 082 939 588

Date: March 3, 1992

Facility Representatives: Douglas Hansen, Manager of Research Services

Inspection Team: Peter M. McLaughlin, Resource Applications (RAI)  
Alan Supple, RAI

Photographer: Alan Supple, RAI

Weather Conditions: Calm, overcast, temperature about 40°F

Summary of Activities: The visual site inspection (VSI) began at 9:15 a.m. with an introductory meeting. The inspection team discussed the purpose of the VSI and the agenda for the visit. The facility representative then discussed the CBI Research facility's past and current operations, solid waste generated, and history of documented releases. Most of the information was exchanged on a question-and-answer basis. The CBI Research facility representative provided the inspection team with copies of documents requested.

The VSI tour began at 11:30 a.m. The laboratory building, wave tank, materials yard, and all materials staging areas were inspected. During this time photographs were taken of the Hazardous Waste Satellite Accumulation Area (SWMU 1), Hazardous Waste Storage Pad (SWMU 2), Hazardous Waste Storage Tank (SWMU 3), and Asbestos Waste Storage Area (SWMU 4). No AOCs were identified during the VSI.

The tour concluded at 12:45 p.m., after which the inspection team held an exit meeting with the facility representative. The VSI was completed and the inspection team left the facility at 1:15 p.m.

Observations:

During the VSI, one drum of asbestos waste was being stored. The drum was not covered. No evidence of release from this unit was noted.

#### 4.0 AREAS OF CONCERN

RAI identified one AOC during the PA/VSI. This AOC is discussed below; its location is shown in Figure 2.

##### AOC 1      Tank Farm

The Tank Farm (AOC 1) consisting of three aboveground tanks: one 18,500-gallon steel floating-roof tank, which stored petroleum products; one 11,500-gallon steel tank which stored ethylene glycol; and one 11,000-gallon concrete tank, which stored liquified natural gas (LNG). The petroleum product and LNG tanks have not been used since 1981. The ethylene glycol tank was emptied in 1990 and is no longer in use. The tank farm was used to perform emissions testing on floating-roof tanks. The ground area surrounding the Tank Farm is gravel cover over soil. No releases from these tanks have been documented; however, neither integrity tests nor soil sampling have been performed for these tanks. Until the soil surrounding the tanks is sampled for evidence of release, and/or the tanks are found to be tight, this area should be considered an AOC.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified four SWMUs and one AOC at the CBI Research facility. Background information on the facility's location, operations, waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. AOCs are discussed in Section 4.0. Following are RAI's conclusions and recommendations for each SWMU and AOC. Table 3 summarizes the SWMUs and AOC at the CBI Research facility and recommended further actions.

### **SWMU 1                      Hazardous Waste Satellite Accumulation Area**

**Conclusions:**                      The Hazardous Waste Satellite Accumulation Area is used to accumulate small quantities of wastes generated during R & D activities. The drum currently used at this unit has not been filled since the unit began operations in 1986. The unit is located indoors, away from floor drains, and has no history of release. The unit has a low potential for release to ground water, surface water, air, and on-site soils.

**Recommendations:**                      RAI recommends no further action for this unit.

### **SWMU 2                      Hazardous Waste Storage Pad**

**Conclusions:**                      The Hazardous Waste Storage Pad is used to store all hazardous wastes for less than 90 days prior to off-site disposal. No wastes were being stored at the time of the VSI. The facility is preparing a closure plan to close this unit and the Hazardous Waste Storage Tank (SWMU 3). The unit has a low potential for release to ground water, surface water, air, and on-site soils.

**Recommendations:**                      RAI recommends no further action for this unit.

7/24/00

RELEASED  
DATE \_\_\_\_\_  
RIN # \_\_\_\_\_  
INITIALS *[Signature]*

TABLE 3  
SWMU AND AOC SUMMARY

<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Hazardous Waste Satellite Accumulation Area	1986 to present	None	No further action.
2. Hazardous Waste Storage Pad	1982 to present	None	No further action.
3. Hazardous Waste Storage Tank	1982 to 1986	None	No further action.
4. Asbestos Waste Storage Area	Approximately 1989 to present	None	Manage waste so as to minimize potential for release.
<u>AOC</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Tank Farm	1976 to 1990	None	Integrity tests of tanks and/or soil sampling for evidence of release.

RELEASED  
 DATE 9/24/02  
 RIN #           
 INITIALS WV

**SWMU 3**

**Hazardous Waste Storage Tank**

**Conclusions:**

The Hazardous Waste Storage Tank was used to store and blend hazardous wastes. When full, the hazardous wastes were pumped into 55-gallon steel drums and prepared for off-site disposal. This unit is to be closed and removed due to lack of use. No releases have been documented from this unit. The unit has a low potential for release to ground water, surface water, air, and on-site soils.

**Recommendations:**

RAI recommends no further action for this unit.

**SWMU 4**

**Asbestos Waste Storage Area**

**Conclusions:**

The Asbestos Waste Storage Area stores asbestos waste generated during an inspection of the facility cooling tower. Asbestos waste is stored in a 70-gallon steel salvage drum. The asbestos waste is expected to be removed from the facility upon completion of the laboratory remodelling and cooling tower upgrade. The potential for release to environmental media is detailed below.

Ground Water: Low. Due to the nature of the waste managed, this unit has a low potential for release to ground water.

Surface Water: Low. Due to the nature of the waste managed, this unit has a low potential for release to surface water.

Air: Moderate. During the VSI, one drum of asbestos waste was stored without a lid. The asbestos may become airborne during windy conditions.

On-Site Soils: Low. Due to the nature of the waste managed, this unit has a low potential for release to on-site soils.

Recommendations: RAI recommends that the waste be managed in such a way as to minimize potential for release to environmental media.

AOC 1 Tank Farm

Conclusions: The Tank Farm stored petroleum products, LNG, and ethylene glycol used during emissions testing of floating-roof tanks. The aboveground tanks are no longer used. Neither integrity tests nor soil sampling have been performed. The area surrounding the tanks consists of gravel cover over soil. The potential for release to environmental media is detailed below.

Ground Water: Low. The tanks are empty and no longer used.

Surface Water: Low. The tanks are empty and no longer used.

Air: Low. The tanks are empty and no longer used.

On-Site Soils: Moderate. The tanks are old and their integrity is undetermined. A release to on-site soil may have occurred.

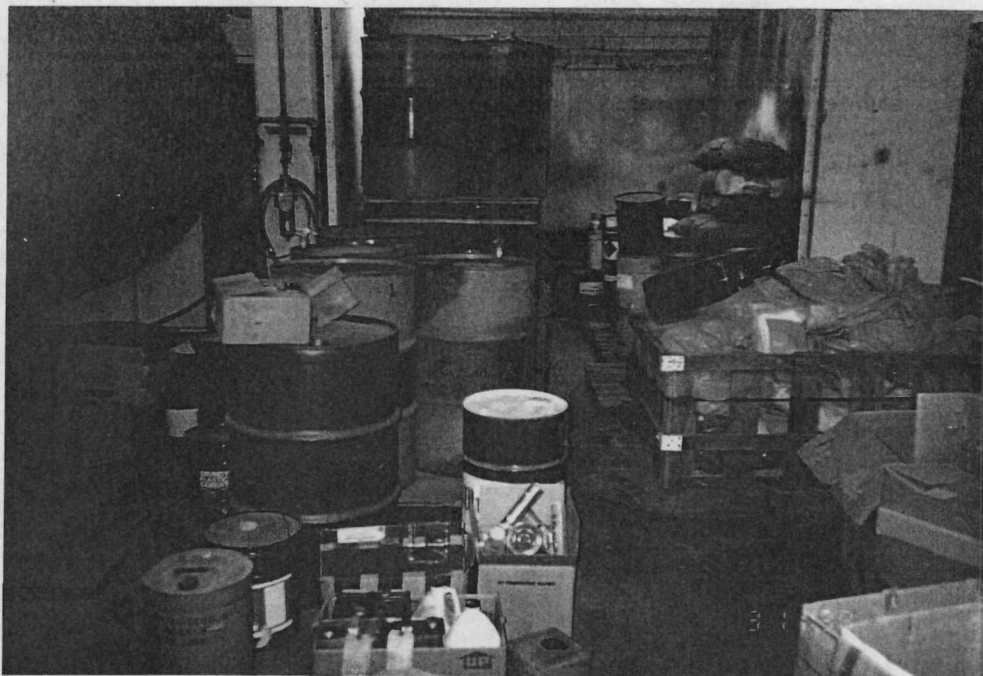
Recommendations: RAI recommends that the integrity of the tanks be evaluated and/or the soil surrounding the tanks be sampled for evidence of release.

RELEASED  
DATE 8/24/01  
RIN #  
INITIALS WJ

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Photograph No. 1

Location: Near SWMU 1

Orientation: East

Date: 3/3/92

Description: This inactive paint spray booth serves as a staging area for material whose usefulness needs to be determined. If the material is found to be unusable it will be managed as waste. The paint spray booth will serve as a temporary hazardous waste storage area if the Hazardous Waste Storage Pad (SWMU 2) must be removed during closure.



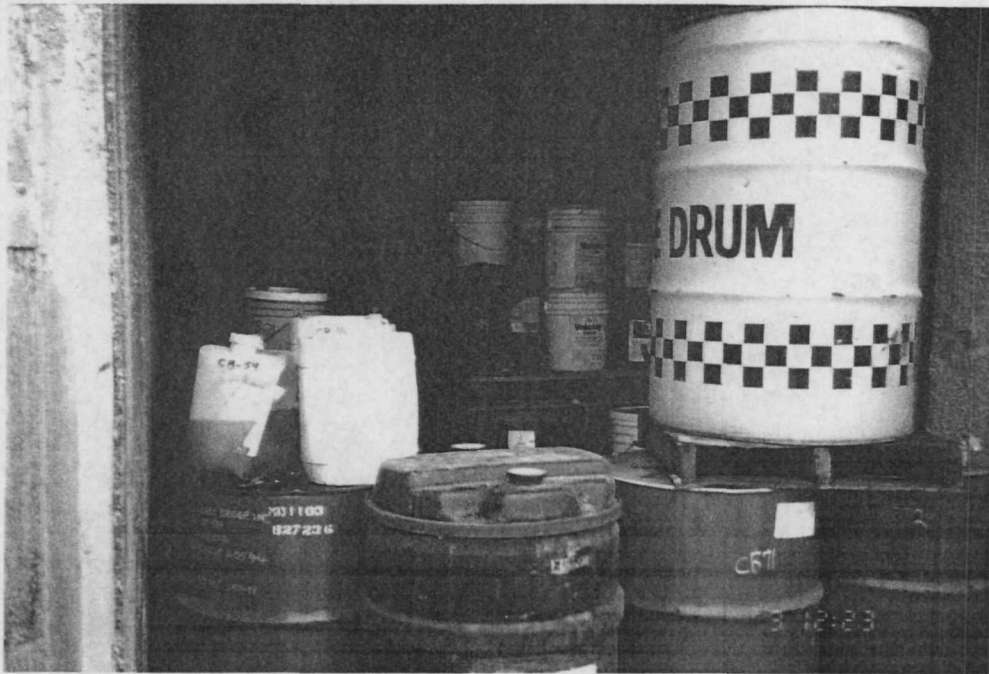
Photograph No. 2

Location: SWMU 4

Orientation: Southeast

Date: 3/3/92

Description: The salvage drum on the right contains asbestos waste. All other drums are staged and awaiting usefulness determination. If found unusable, the material will be managed as waste.



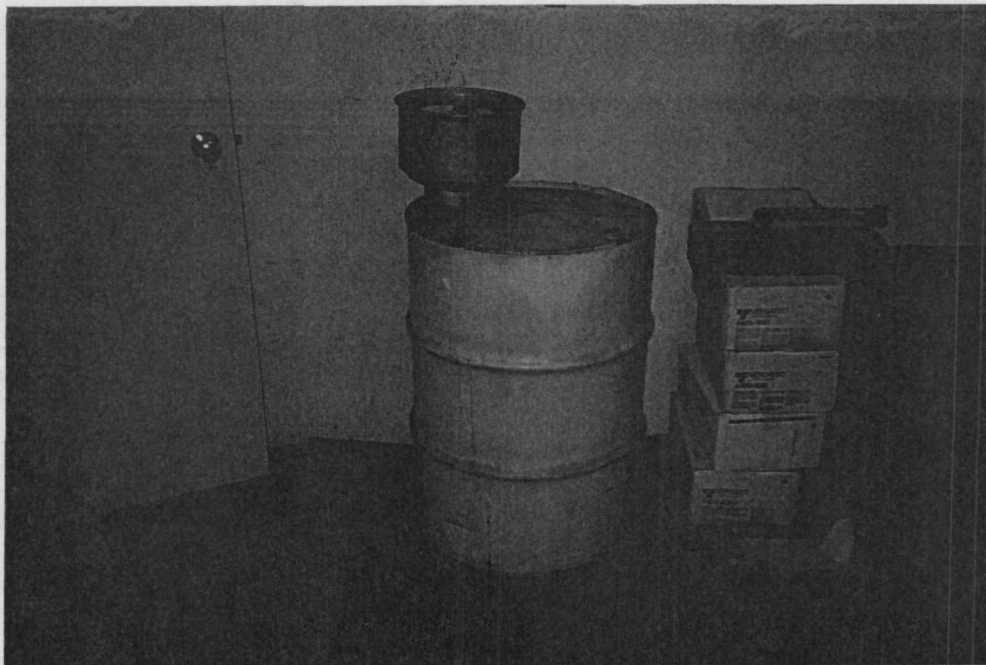
Photograph No. 3

Location: Near SWMU 4

Orientation: North

Date: 3/3/92

Description: This 20-foot transport container is the staging area for material that was used during a Chicago Bridge & Iron project in the Persian Gulf. If the material is found to be unusable, it will be managed as waste.



Photograph No. 4

Location: SWMU 1

Orientation: North

Date: 3/3/92

Description: This unit has not been filled since it began operation in 1986. Wastes generated during R & D activities are accumulated here.



Photograph No. 5

Location: SWMU 2

Orientation: South

Date: 3/3/92

Description: This unit will undergo RCRA closure. The two 200-gallon fuel oil tanks are empty. No wastes were being stored here at the time of the VSI.



Photograph No. 6

Location: SWMU 2 and SWMU 3

Orientation: North

Date: 3/3/92

Description: This unit rests on the Hazardous Waste Storage Pad (SWMU 2). It will undergo RCRA closure and be removed. It has not stored hazardous waste since 1986.

**ATTACHMENT B**

**VISUAL SITE INSPECTION FIELD NOTES**

58

3/3/92 CBI RECORD 9:15

CURRENTLY PREPARING CLOSURE PLAN  
FOR TANK

WET CHEM LAB IS CURRENTLY INACTIVE

TANK FARM - EMPTY

- WERE USED FOR EMISSIONS TESTING

- PESTICIDE PRODUCTS

- ETHYLENE GLYCOL: LAST CONTAINS

DROP TEST UNIT 1989

CURRENTLY UNDER CONSTRUCTION:

- BUILDING BLOCK

- 3 STORY 75,000 FT<sup>2</sup>

- ON OLD PARKING LOT

RETENTION BASIN FOR STORM WATER 1991

130 ACRES

DUPAGE RIVER: EAST BORDER

SANITARY SEWER PLANTIFIED TREATMENT WORKS

G.W. WELL @ KERR GLASS

BLOCK BUILT BY CONT CAN 1959

DORMANT 1963-1967

1967 - CBI

PRIOR TO 1959 - ALL LAND

BASIN - LABS

SPRAY BOOTH - NOT VENT (STIRLING MTL)

MACHINE SHOP

3/3/92 P. M. M. M. M.

59

BASIC PROCESSES 4:0

MACHINE GROUP

- TEST FACILITY FOR OFF-SHORE STRUCTURES

- FAB OF MODELS

- PHYSICAL TESTING IN WAVE TANK

STRUCTURAL RECORD

- ENGINE LOCATION OF BLOCK

PROJECTS RESEARCH GROUP

- PROCESS RELATED WORK

- CONCEPTUAL PLANS (PILDT)

DEVELOPMENT GROUP

- DEV. CBI GROUP PRODUCTS

- FLOATING ROOF TANK EMISSIONS

- WIND TUNNEL FOR EVAL. ON FITTINGS

18 MONTHS - 2 YRS

OLD PAINT PRODUCTS

SOLIDS LAB, SOLIDS

ETHYLENE GLYCOL UNIT SITE

ONE-TIME GENERATION IN TANK

LAB PACK OFF-SPEC/OLD CHEMS

- GROUPED

3/3/92 P. M. M. M. M.

WASTE PLANT LIB. 385, P001/P003  
 WASTE COMPOSING 745, D002  
 WASTE COMPRESSED GAS 50, D001  
 WASTE OXIDIZER 30, D001/D007

WILL GET COPY OF WASTE MANIFEST FOR '91

FIW, INC. PEACOCK, IL  
 - INCINATING OLD CHIMNYS

SOME SMALL Q WASTE OILS & CONTAINERS  
 ASBESTOS SPECIAL WASTE TO AFR UNIDFILL  
 GRADISABLE

UNIVERSAL ASBESTOS REMOVAL  
 - BRIDLEVIEW, IL

ETHYLENE GLYCOL: EFFLUENT TECHNOLOGY  
 McLEOD, IL

PAINT WASTE SAFETY - KAREN HOLTEN, IL  
 - INCLIN

FACEZ WIRE POLYMER THERMAL ENERGY SOURCE  
 MARINE NDAK - CLASSIFIED  
 CRYSTAL GROWTH

3/3/92 *for M. McHugh*

FACILITY BC EMPLOYEES  
 ENH 37  
 INSUL 2

260

2.5 TO NEW BNL BUILD

NO RELEASES

CLOSURE DUE TO LACK OF USE

AWARE ENVIRONMENTAL GUARDIAN: NC

DEPT PROPOSAL FOR 1ST SUBMIT TO ILM

LAST PUMP 1986

TANK WILL BE REMOVED

SCA CHEMICAL SERVICES CHICAGO, IL  
 - INCLIN.

REMOVE PAO

TEMP AREA IN SPRAY PAINT BOOTH

PROPOSED DATE OF COMPLETION

165 DAYS FROM START

PLAINFIELD - 3500 PEOPLE

DOUBTS STORED FOR > 90 DAYS

WILL BE SMALL Q GEN.

NO PERMITS

3/3/92 *for M. McHugh*

## STORAGE AREAS:

- SPRAY BOOTH
- 20 FT CONTAINER IN MAIL YARD
- DRUMS

RETENTION OVER FLOW WOULD GO TO RIVER  
 EXCESS PROPERTY LEASED TO FARMER  
 1979 CHICAGO BRIDGES & IRON CO  
 1985 CBI RESEARCH CORP.

VS1 11:30

OILS, ORGANICS

DUMPED INTO SATELLITE

OR LAB PACK

SOME WATER SAMPLES IN LAB

- ① E SCRAP BOOTH LOW BAY  
 STAGING FOR PRODUCTS TO BE DETERMINED  
 PAINTS, PETRO PRODUCTS, ALUM

- ② N SCRAP METAL  
 CARBON S.S. ALUM  
 - FULLY RECYC.

- ③ N. H.W. ACCUM. BASEMENT  
 VARIETY OF WASTES GEN.

3/3/92 Rick M. McHugh

OILS, DEGREASERS, TOLUENE, BENZENE  
 PAINT

- ④ N. H.W. TANK 1000 & C.S.  
 ADD BATHOMS  
 HAIR LINE CRACK IN PAD - BERM  
 6' BERM  
 NO WASTES AT VS1

- ⑤ PAD  
 FUEL OIL TANKS EMPTY  
 DROUGHT IN BY X EMPLOYEE  
 MAY 91 LAST STORAGE

- ⑥ N SCRAP  
 SE ASBESTOS SALVAGE OPEN  
 OTHERS BEING STAGED

- ⑦ N 79-81 PERSIAN GULF DAS ISLAND  
 ISOCYANATE  
 SURFACE COATINGS  
 20' CONTAINER

3/3/92 Rick M. McHugh

**ATTACHMENT C**

**FACILITY'S RCRA PART A PERMIT APPLICATION**

FORM <b>1</b> GENERAL	<b>EPA</b>	U.S. ENVIRONMENTAL PROTECTION AGENCY <b>GENERAL INFORMATION</b> Consolidated Permit Program (Read the "General Instructions" before starting.)	I. EPA I.D. NUMBER <b>FILED 082939588</b>
II. POLLUTANT CHARACTERISTICS			GENERAL INSTRUCTIONS If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-2 which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.
I. EPA I.D. NUMBER	PLEASE PLACE LABEL IN THIS SPACE		
III. FACILITY NAME			
V. FACILITY MAILING ADDRESS			
VI. FACILITY LOCATION			

SPECIFIC QUESTIONS	MARK "X"			SPECIFIC QUESTIONS	MARK "X"		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		<input checked="" type="checkbox"/>		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		<input checked="" type="checkbox"/>	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		<input checked="" type="checkbox"/>		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		<input checked="" type="checkbox"/>	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	<input checked="" type="checkbox"/>			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		<input checked="" type="checkbox"/>	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		<input checked="" type="checkbox"/>		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		<input checked="" type="checkbox"/>	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		<input checked="" type="checkbox"/>		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		<input checked="" type="checkbox"/>	

III. NAME OF FACILITY
<b>1</b> SKIP <b>CBI RESEARCH CORPORATION</b>

IV. FACILITY CONTACT	
A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
<b>2</b> <b>LASKA LAWRENCE MGR. RES. SERV.</b>	<b>815 436 2912</b>

V. FACILITY MAILING ADDRESS	
A. STREET OR P.O. BOX	
<b>3</b> <b>1501 DIVISION STREET</b>	
B. CITY OR TOWN	C. STATE D. ZIP CODE
<b>4</b> <b>PLAINFIELD</b>	<b>IL 60544</b>

VI. FACILITY LOCATION	
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	
<b>5</b> <b>ROUTE 59</b>	
B. COUNTY NAME	
<b>WILL</b>	
C. CITY OR TOWN	D. STATE E. ZIP CODE F. COUNTY CODE (if known)
<b>6</b> <b>PLAINFIELD</b>	<b>IL 60544</b>

A. FIRST		B. SECOND	
73443 (specify) FABRICATED PLATE WORKS (BOILER SHOP)		71629 (specify) HEAVY CONSTRUCTION NOT ELSEWHERE SPECIFIED & R&D	
C. THIRD		D. FOURTH	
(specify)		(specify)	

## VIII. OPERATOR INFORMATION

A. NAME		B. Is the name listed in Item VIII-A also the owner?	
CBI RESEARCH CORPORATION		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)		D. PHONE (area code & no.)	
F = FEDERAL S = STATE P = PRIVATE M = PUBLIC (other than federal or state) O = OTHER (specify)		P (specify) PRIVATE	
E. STREET OR P.O. BOX		815 436 2912	
1501 N. DIVISION STREET			
F. CITY OR TOWN		G. STATE	H. ZIP CODE
PLAINFIELD		IL	60544
		IX. INDIAN LAND	
		Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

## X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)		D. PSD (Air Emissions from Proposed Sources)	
9 N		9 P	
B. UIC (Underground Injection of Fluids)		E. OTHER (specify)	
9 U		(specify)	
C. RCRA (Hazardous Wastes)		E. OTHER (specify)	
9 RI ILD 082939588		(specify)	
MAP			

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.


## XII. NATURE OF BUSINESS (provide a brief description)

CBI Research Corp. provides R&D for the entire range of CBI Industry Product Lines and outside related funded Research. CBI Industries is engaged in the design, fabrication and construction of large metal plate products, structures and related systems, and thus acts as a service industry to other industries, utilities and governmental bodies. The company's principal products include petroleum, petro-chemical and chemical storage tanks, process and pressure or vacuum vessels, nuclear reactor and containment vessels, water storage tanks, low temperature and cryogenic liquefaction and storage facilities, hydroelectric penstocks, spiral cases, tunnel liners and surge tanks, fixed and shipmounted marine structures, oxygen converter vessels, tanks and bins for granular storage, water and waste treatment equipment and specialty gases such as CO<sub>2</sub> to industry.

## XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (Type or print)	B. SIGNATURE	C. DATE SIGNED
JOHN HAGSTROM PRESIDENT - DIRECTOR OF RESEARCH	John Hagstrom	2/17/85
COMMENTS FOR OFFICIAL USE ONLY		

FORM <b>1</b> RCRA		U.S. ENVIRONMENTAL PROTECTION AGENCY <b>HAZARDOUS WASTE PERMIT APPLICATION</b> Consolidated Permits Program (This information is required under Section 3005 of RCRA.)	I. EPA I.D. NUMBER
			<b>FILED 082939588</b>

FOR OFFICIAL USE ONLY

APPLICATION DATE RECEIVED  
APPROVED (yr. mo. & day)

COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

☐ 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

☐ 2. NEW FACILITY (Complete item below.)

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION (place an "X" below and complete item I above)

☐ 1. FACILITY HAS INTERIM STATUS

☒ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES - CODES AND DESIGN CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

1. AMOUNT - Enter the amount.

2. UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<u>Storage:</u>		
CONTAINER (barrel, drum, etc.)	301	GALLONS OR LITERS
TANK	302	GALLONS OR LITERS
WASTE PILE	303	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	304	GALLONS OR LITERS
<u>Disposal:</u>		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
<u>Treatment:</u>		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided: Item III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	S
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	B
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT	2. UNIT OF MEASURE (enter code)	
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	1000	G		7				
2	S01	1100	G		8				
3					9				
4					10				

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

#### IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D, for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS.....	P	KILOGRAMS.....	K
TONS.....	T	METRIC TONS.....	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

#### D. PROCESSES

##### 1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (If a code is not entered in D(1)).
X-1	K0054	900	P	T03D80	
X-2	D0002	400	P	T03D80	
X-3	D0001	100	P	T03D80	
X-4	D0002				included with above

EPA I.D. NUMBER (enter from page 1)										FOR OFFICIAL USE ONLY									
WILD082939588										W DUP									

## IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES							
				1. PROCESS CODES (enter)				2. PROCESS DESCRIPTION (If a code is not entered in D(1))			
1	F001	10	P	S01							
2	F005	10	P	S01							
3	F018	10 BRUCINE	P	S01							
4	P105	10 SODIUM AZIDE	P	S01							
5	P106	10 SODIUM CYANIDE	P	S01							
6	U001	20	P	S01							
7	U002	20 ACETONE	P	S01							
8	U013	20	P	S01							
9	U019	400 BENZENE	P	S01							
10	U021	10 BENZIDINE	P	S01							
11	U029	10 METHYL BROMIDE	P	S01							
12	U044	10 CHLOROPHEN	P	S01							
13	U112	10 ETHYL ACETATE	P	S01							
14	U123	10 FORMIC ACID	P	S01							
15	U134	10 HYDROGEN FLUORIDE	P	S01							
16	U135	10 HYDROGEN SULFIDE	P	S01							
17	U140	20 ISOBUTYL ALCOHOL	P	S01							
18	U147	10 MALEIC ANHYDRIDE	P	S01							
19	U151	10 MERCURY	P	S01							
20	U154	10 METHANOL	P	S01							
21	U159	10 MEK	P	S01							
22	U161	10 METHYL ISOPROPYL KETONE	P	S01							
23	U165	10 NAPHTHALENE	P	S01							
4	U169	10 NITROBENZENE	P	S01							
25	U188	10 PHENOL	P	S01							
26	U190	10 PHTHALIC ACID	P	S01							

A Form 2510-3 (6-80)

EPA I.D. NO. (enter from page 1.)

FIELD 08291391588 T/A C 76

#### V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

#### VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

#### VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

41 37 02 S

088 12 00 W

#### VIII. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

☐ B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

#### IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (PRINT OR TYPE)

B. SIGNATURE

C. DATE SIGNED

JON HAGSTROM

*Jon Hagstrom*

2/17/88

#### X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (PRINT OR TYPE)

B. SIGNATURE

C. DATE SIGNED